Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

CLAIMS

Claim 1 (Currently Amended) ~~An architecture of components to provide for two-way data communication between at least one central modem and a set of client modems attached at the distal ends of a in-building coax distribution network, the distribution network adapted to distribute cable television signals, the architecture comprising:~~

~~a) At least one signal amplifier for amplifying television signals in a first frequency band;~~

~~b) at least one central modem for transmitting data to the set of client modems for receiving upstream transmissions from individual client modems, the upstream and downstream transmissions occurring in frequency bands above the first frequency band;~~

~~c) at least one network access device for~~

~~a. transmitting data upstream from one of the at least one central modem to a network, the central modem having received the data transmission from one of the client modems and the client modem having received the data from a device downstream of the client modem, and~~

~~b. receiving downstream transmissions of data from the network for conveying to the central modem which in turn conveys the data to the client modems for use by at least one device downstream of a client modem;~~

~~and~~

~~at least one diplexer for combining an output from one of the at least one signal amplifiers with the upstream and downstream transmissions between the at least one central modem and the client modems~~.

An architecture of components within a building to distribute television signals and data over an in-building coax distribution network to provide television signals to a set of at least two televisions and to provide for two-way data communication between at least one hub and a set of at least two client modems attached at the distal ends of the in-building coax distribution network, the architecture comprising:

a) A network connection connecting the building to an external network, the cable carrying data pertaining to communications with the set of at least two client modems;

b) A cable carrying television signals in a first frequency band;

c) At least one signal amplifier for amplifying television signals in the first frequency band from the cable carrying television signals, the output of the at least one signal amplifier provided to at least one diplexer, the downstream leg of the at least one diplexer connected to the in-building coax distribution network;

d) at least one hub connected to the in-building coax distribution network through the at least one diplexer, the hub:

1. comprising at least one central modem for transmitting Internet Protocol data downstream to the set of client modems and for receiving upstream transmissions of Internet Protocol data from individual client modems, the upstream and downstream transmissions occurring in frequency bands above the first frequency band;
2. buffering the upstream and downstream communications for the in-building coax distribution network;
3. controlling the use of the upstream channel on the in-building coax distribution network by the set of at least two client modems; and
4. acting as a proxy server for the at least two client modems; and

e) at least one network access device for

1. transmitting data upstream to the external network from one of the at least one hubs, the hub having received the data transmission from one of the client modems and the client modem having received the data from a device downstream of a particular client modem, and
2. receiving downstream transmissions of data from the external network for conveying to the at least one hubs which in turn conveys the data to the client modems for use by at least one device downstream of a particular client modem.

Claim 2 (Currently Amended) ~~The architecture of claim 1 wherein the transmission conveyed downstream from the at least one network access device to the at least one central modem~~

~~undergoes a protocol conversion between the network access device and the central modem~~. The architecture of claim 1 further comprising a joiner device with a first downstream leg connected to the network connection, a second downstream leg connected to the cable carrying television signals in the first frequency band, and with an upstream leg connected to an upstream cable carrying both television signals and data pertaining to communications with the set of at least two client modems.

Claim 3 (Currently Amended) The architecture of claim 1 wherein a first network access device is in communication with a first central modem which is in communication with a first diplexer and a second diplexer, the first diplexer connected to an output of one of the at least one signal amplifiers and to a first distribution network with a first set of client modems, the second diplexer connected to an output of one of the at least one signal amplifiers and to a second distribution network with a second set of client modems.

Claim 4 (Original) The architecture of claim 1 wherein a first network access device is in communication with:

a) a first central modem which is connected to a first diplexer, the first diplexer connected to an output of one of the at least one signal amplifiers and to a first distribution network with a first set of client modems; and
b) a second central modem which is connected to a second diplexer, the second diplexer connected to an output of one of the at least one signal amplifiers and to a second distribution network with a second set of client modems.

Claim 5 (Original) The architecture of claim 4 wherein the first network access device and the second network access device are cable modems which access the Internet through a connection located at a cable head-end.

Claim 6 (Currently Amended) The architecture of claim 1 wherein ~~a first~~ one network access device is in communication with ~~a central server~~ the hub; wherein the hub further comprises a central server, the central server is in communication ~~with~~ with:

a) a first central modem which is connected to a first diplexer, the first diplexer connected to an output of one of the at least one signal amplifiers and to a first distribution network with a first set of client modems; and

b) a second central modem which is connected to a second diplexer, the second diplexer connected to an output of one of the at least one signal amplifiers and to a second distribution network with a second set of client modems;

such that one central server serves at least two distribution networks.

Claim 7 (Currently Amended) ~~The architecture of claim 6 wherein the central server performs protocol conversions so that downstream transmissions are converted from Internet Protocol into a Point-to-Point Protocol.~~ The architecture of claim 6 wherein the central server acts as a proxy server in order to connect the set of at least two client modems to the one network access device.

Claim 8 (Currently Amended) ~~The architecture of claim 1 wherein a central server is placed with the cable head-end equipment and connected with the cable head-end equipment such that the downstream output from the cable head-end includes cable television channels, data communications to third party cable modems, and data communications from the central server to at least one network access device.~~ The architecture of claim 1 wherein the hub converts downstream data into a frame format in accordance with a recognized standard for encoding video signals for transmission over communications networks.

Claim 9 (Currently Amended) The architecture of claim 8 wherein the ~~data communications from the central server are in a point-to-point protocol~~ hub converts downstream data into MPEG2/DVB frames and uses MPEG Packet Identification codes to indicate whether the frame carries digital video.

Claim 10 (Currently Amended) The architecture of claim 1 wherein at least two network access devices are connected to a first router, the first router is connected to a second router, and the second router is connected to:

~~a) a first central modem which is connected to a first diplexer, the first diplexer connected to an output of one of the at least one signal amplifiers and to a first distribution network with a first set of client modems; and~~

b) ~~a second central modem which is connected to a second diplexer, the second diplexer connected to an output of one of the at least one signal amplifiers and to a second distribution network with a second set of client modems.~~

a) a first hub which is connected to a first diplexer, the first diplexer connected to an output of one of the at least one signal amplifiers and to a first distribution network with a first set of client modems; and

b) a second hub which is connected to a second diplexer, the second diplexer connected to an output of one of the at least one signal amplifiers and to a second distribution network with a second set of client modems.

Claim 11 (Currently Amended) The architecture of claim 10 wherein the first network access device is connected to a first external network and the second network access device is connected to a second network.

Claim 12 (New) The architecture of claim 1 wherein the hub adds a control field to data sent downstream targeted for a specific client, the control field indicating the strength of a previous upstream transmission from the targeted client modem.

Claim 13 (New) The architecture of claim 1 wherein the hub adds local value-add functions so that the in-building local coax distribution network is provided television signals, Internet Protocol data from the external network, and local value-add functions.

Claim 14 (New) The architecture of claim 14 wherein the local value-add functions are services selected from the group consisting of digital video on demand services and telephony services.